THE VETERINARY RECORD

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The Value of Statistics.

The Board of Trade issue statistics of the quantities and values of imports brought into this country. Doubtless the gross totals are of use and importance, but the details are in some cases ridiculously misleading.

The total import of horses is given for 1893 as 13,719, and the total value as £376,954. The horses are classed as stallions, mares and geldings, and eight countries are allotted a separate column so that it is possible to trace from whence we obtain horses. Strange to say Russia is not mentioned although there is a large importation of ponies from that country, which are sold here at about £8 apiece. Probably these are included in "other countries" from which we last year received over 500 horses. As a rule our equine imports are mostly mares and geldings for purposes of work. We flatter ourselves that for breeding purposes we have no need to go abroad, and that with the exception of a few thoroughbreds from the United States we have no requirement for stallions. The tables show, however, that we imported in 1893 over 500 stallions from various countries. This number was made up of 100 from Denmark, nearly 200 from Holland, 100 from France, and the rest from other parts. One wonders who bought them and for what purposes they were imported. Probably half the number were funeral horses, and as these ugly brutes are not emasculated they may perhaps be called stallions even though they are incapable of use at the stud. The stallions from Denmark are valued at £4 each, so we suppose they were ponies. The Dutch horses reached nearly £65 each, and the French averaged about £80. In comparing the numbers of imported stallions with the values we are astonished to find that the highest average of cost is in the horses imported from the Argentine Republic. They sent us four stallions, and the value is returned at £30,065, or an average of £7516 each. Anyone unacquainted with the wretched, worthless brutes which have arrived here from Buenos Ayres might imagine that a new field had been found in which to purchase high-class horses. We certainly have sent a number of thoroughbreds to Argentina, and these Government statistics might suggest that such great success had followed the introduction of our new blood that we were having returned to us some wonderful horses improved by having been bred in a new and distant country. No such thing has happened. The figures are correct, but for want of an explanatory foot-note they are more misleading than if they had been compiled from pure imagination. No flight of fancy would ever have valued four Argentine stallions at £30,000. Such a feat required the combination of truthfulness and ignorance to be found in a Government clerk. These figures are not arranged by horsemen and they illustrate how errors may be suggested when facts concerning animals are collated by men who know nothing technically of the subject. The simple explanation is that one of the four stallions imported from Argentina was Ormond—that he was valued at £30,000, whilst the other three totalled up to £65 between them. If the compilers of these tables had known even a little about horses they would have added a foot-note in explanation of figures so misleading. A few such examples as this would possibly convince even Mr. Herbert Gardner that some technical knowledge is advantageous in dealing with technical subjects. Probably the statistics about horses are compiled by Inland Revenue clerks or gentlemen connected with the customs. We wonder how many errors even more glaring than this are committed by the retired soldiers and sailors who superintend the stamping out of contagious diseases of animals.

It is wrong to infer from Government statistics that imported stallions from Argentina are worth £7000 each although the figures say so. It is not right to infer from Government practice that soldiers and sailors are best fitted for inspectors of outbreaks of lung disease and swine fever—although the Minister of Agriculture avows it.

Influenza.

In the winter of 1891-92 influenza was prevalent amongst horses in London. It had been distinctly active for two years. In the summer of 1892 it die rapidly out, and for the last twelve months it has been absent. All, or nearly all, contagious diseases seem to follow this rule—that after an extra period of virulency there is a period of quiescence. We suppose that the rest of the country is now as free as the Metropolis, and that all the old horses in the kingdom possess to some extent an immunity. Probably in five or six years from '91 we shall again have a wave of influenza pass over the stables of the country. Where is the disease now? Has it quite left the island, or is it only in abeyance till we have a full quantity of horses possessing no acquired immunity?

CASES AND ARTICLES

INTESTINAL INTUSSUSCEPTION.

By Vet. Major W. S. Adams, Remount Depôt, Hosûr.

An Australian gelding in poor condition, but improving, and with no previous history of ill-health, at about 10 a.m. on July 10th was observed to be restless and to be showing symptoms of abdominal pain; he was treated for colic but there was no cessation of pain. I saw the horse at about 11.30, he was then in constant acute pain, and sweating, especially about the flanks; the temperature was 105. A small quantity of fæces had been passed with the first enema, but subsequently each enema was rejected clear; the pulse was rapid, small and wiry, the visible mucous membranes were injected, and it is remarkable with what rapidity the colour deepened. There was no tympany or distension of the abdomen but on the contrary the horse had a remarkably "tucked up" or drawn appearance. There was an anxious expression, and the horse, when up, stood with his head protruded; after moving round the box he would collect all four legs under him and go down suddenly. If compelled to walk he moved with a crouching gait, with the hind limbs drawn under him. When down the horse did not assume any particular position, there was no sitting on the haunches or lying on the back, but he would frequently turn violently completely over. The symptoms gradually became aggravated, the pulse imperceptible, the expression pinched and haggard, the surface of the body was bedewed with a cold sweat and the extremities were cold. The horse died at 3 a.m. on the 11th, 17 hours after the first attack.

With regard to treatment. The horse was at first treated for colic and was given a laxative, subsequently all treatment was directed to allay the acute pain and to subdue the violence shown. The extract of cannabis indicus was given in two drachm doses with excellent effect.

Post-mortem examination. On exposing the abdominal viscera the small intestines were seen to be inflated with gas, whilst the large intestines were almost empty. On searching the small intestines in situ, I found what appeared to be a stricture. After placing a ligature above and below the constricted portion, I removed the part for examination. This proved to be an intussusception of the ileum, the inverted portion was of great length, measuring nearly two feet, the extremity was lacerated when force, only sufficient to withdraw it, was used. The horse was not a healthy animal. The liver was large and soft in structure, weight 18lbs. The villous coat of the stomach showed signs of disease, and appeared as if eaten away in parts, it had quite lost its natural velvety appearance.

Remarks. I am at a loss to attribute this intussusception to any definite cause. I do not think it could have been a sudden occurrence, but it was probably a gradual process brought about by perverted peristaltic action. If this could be due to indigestion the state of the liver and the stomach would be sufficient to account for it. The horse was in poor condition, but at the time of attack he was improving and had increased in weight. He was fed lightly with grain, but had a liberal forage allowance; his exercise was confined to walking. These cases and others of a similar nature are eminently unsatisfactory. From the state of the pulse, the condition of the visible mucous membrane, the constant pain, the cold sweating &c. together with the general progressive aggravation of the symptoms, we are led to the opinion that the case is hopeless. That there is serious intestinal obstruction we know from the fact that no fæces are passed, but when we desire more accurately to diagnose the condition we have to treat we find it a matter of great difficulty and uncertainty. I have searched for records of similar cases and with their aid, perhaps, the case I have now recorded may add its quota to former observations.

From various professional publications I have unearthed nineteen recorded cases of strangulation or of invagination of the small intestines.

With regard to elevation of the temperature as a symptom, it will be observed that in the above case 105 was registered. I find in the majority of cases recorded that the temperature has not been noted, but in six cases it has been given at 100·2, 100·4, 104, 103·2, 103·4, and 103dgs., this would tend to show that we may expect a degree of fever.

The presence or absence of abdominal tympany is another interesting point. I find in the 19 recorded cases that tympany was said to be present in only one case, and two of the patients were said to have been "tucked up." Of six similar cases affecting the large intestines tympanitis was recorded as a symptom in three cases.

With regard to the duration of the disease from the time of attack till death, I find that when the small intestines are affected, the average is about 21 hours, and when the large intestines are affected the time is longer, being about 37 hours.

From these notes I think the following inferences may be fairly drawn:

1. That in these cases we may expect to find a rise in temperature, which may be considerable.

2. That in cases of obstruction of the bowels due to strangulation or to invagination of the small intestines, although other symptoms may be similar, there is, usually, an absence of abdominal tympany, which absence is sometimes marked, whereas when the large intestines are affected, tympany may be expected.

3. The progress of the case is more rapid, and death takes place more rapidly when the small intestines are affected.

Having made a post-mortem examination of the remains of the colt Bullingdon last week, Mr. Charnock, veterinary surgeon, has certified that the immediate cause of death was acute inflammation of the lungs set up by the severe injury to the hock.

"DOCTORS DIFFER."

A case which afforded an illustration of how the opinions of members of our profession vary was heard before the Sheriff of Forfarshire on the 13th of last month. Mr. Adam Will, contractor, Dundee, sued Mr. John Robertson, horsedealer, Kirriemuir, for £34, the price of a grey gelding which he had bought from Robertson but was not conform to warranty. Mr. J. McLauchlan Young, M.R.C.V.S., Dundee, deponed having examined the horse and condemned it as a roarer.

Mr. Hunter, F.R.C.V.S., Dundee, Provost Sandeman, M.R.C.V.S., Kirriemuir, and Mr. Inglis, M.R.C.V.S., Forfar, all stated having examined the horse and found no signs of roaring. In cross-examination it was stated that the test was to make the horse draw a cart load with 30cwt. up a steep hill.

The Sheriff in giving judgment said that there would have been no difficulty in the case had it not been for a certificate from Mr. Young, but he had the testimony of three other veterinarians who said the horse was sound. He was of the opinion that Mr. Young had made a mistake. He therefore decided in favour of Mr. Robertson with expenses.

Since then the horse has been examined by Principal Williams who describes him as "a confirmed and rank roarer;" by Mr. Panton, M.R.C.V.S., Blair Atholl, who says he is "a very bad roarer," by Mr. Durkie, M.R.C.V.S., Dundee, who "finds him to be a most pronounced roarer," by Mr. Constable, M.R.C.V.S., Inchture, and by Mr. Garland, M.R.C.V.S., Dundee, who both certify him to be a roarer.

Was it possible for that horse to draw a cart loaded with 30cwt. up a steep hill and show no symptoms of roaring?

VETERINARY SOCIETIES.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(Continued from page 101.*)*

LEAD POISONING, by Professor J. WORTLEY AXE.

DISCUSSION.

Mr. F. G. SAMSON, who opened the discussion, said he had listened with much pleasure to Mr. Axe's lecture, which was no doubt the result of a vast amount of experience on the subject of lead poisoning. The reason he was so much interested in Professor Axe's remarks was that he had lately been called to three cases at the Mitcham Industrial School of the Holborn Union, the symptoms of which cases had been described by Prof. Axe to a nicety. About a month ago he was requested to go to the Mitcham School to see two cows that were said to be not very well. He questioned the cowman who brought him the message, but could glean nothing about the symptoms. When he saw the cows he found that one was worse than the other and would neither eat nor drink. She had a convulsive fit every three-quarters of an hour or so. He was with her about an hour, in the course of which she had two fits. He had his suspicion about the place but did not say much about it. He administered what he considered to be suitable doses of salts with chloric ether. One of the cows he subsequently gave more salts, kept her warm, and saw her again in the evening when her bowels were slightly emptied. The constipation throughout was very strong. Not only was there that fœtid smell mentioned by Professor Axe but the fæces were passed more like paste than anything else. One of the cows died at the end of four, and the other at the end of six days. He made a careful post-mortem examination, and his eyes were opened by the fact of his seeing workmen about the place. He asked the head painter how he had disposed of his rubbish. He answered that it had been thrown away somewhere, and ultimately three or four barrow loads of rubbish containing red and white lead, which had been removed from the schools whilst they were undergoing cleaning and painting, were found in one of the fields. The coats of the stomach of the cows were congested, and the mucous coat was easily removed. The large intestines were congested not in one large patch but here and there throughout. During the progress of the disease the eyes seemed to have a glazed and fixed appearance which when once seen could not be mistaken. There was very little fever. The temperature went up very little indeed. There was a great deal of running from the eyes, and a lot of saliva flowed from the mouth. They ultimately dropped from exhaustion, and once down they did not rise again. They seemed to be paralysed. He treated both the cows in much the same way. He gave one of the cows sulphuric acid, and persevered in giving small quantities of two to three ounces every two hours. On the third day he administered a tonic. Referring to Professor Robertson's book he noticed that the writer particularly mentioned discolouration of the gums. Now, in neither of the cases which came under his (Mr. Samson's) treatment did he notice anything of the kind, and hence he was almost persuaded that the cases were not cases of lead poisoning. He should have formed this opinion but for the fact that lead was discovered in the field to which the cows had had access. In the third case, which occurred subsequently, he was at a loss to know how the cow had got at the lead, or whether or no it had licked the new paint. He administered 1½ lbs. of salts and 1lb. of sulphur, and followed up this treatment in the evening with a strong dose of solution of aloes. He could not get the animal to eat anything. She went on for fifteen days, and was kept alive by the assiduous attention of the cowman who was a skilful and experienced man. He (Mr. Samson) had great difficulty in getting her bowels to respond to the purgative medicine. After fifteen days she began to eat a little. The cows affected with lead poisoning which he treated appeared to make for the door and when the door was opened they trotted round the shed. They did not seem to stand still when thus ailing but kept on the move. They seemed to be free from acute pain. Perhaps the comatose effect which the lead had on the system did away with pain.

Mr. HURNDALL said he should first like to thank his friend, Professor Axe, for the trouble he had taken in the preparation of what he (Mr. Hurndall) preferred to call a paper instead of a lecture as Mr. Samson described it. Prof. Axe had now dissociated himself from the profession of teacher and did not come there to lecture but he descended to their level and read a paper. The subject the professor dealt with was one of intense interest to him (Mr. Hurndall). He accepted the professor's invitation to supplement some of his remarks. He was prepared to confirm by his own experience the symptoms which the professor had described as characteristic of

lead poisoning, as well as the view he took of the toxicological features of the case as a guide not only for veterinary surgeons but for their clients. As they probably knew he (Mr. Hurndall) was a follower of Hahnemann, and those who took him as their guide went further when they came across cases of toxicology and asked themselves the question: What can we learn from the therapeutical standpoint? In the case of a cow to which he was called he at first thought it was a case of plumbism. He made a most careful investigation, however, and found there was nothing in the surroundings of the animal which could lead him to infer that the case was one of lead poisoning. But the picture of this animal was one which exactly coincided with such a case and there was one symptom present which Professor Axe did not mention and that was the retraction of the abdomen.

Prof. AXE: I mentioned the symptom.

Mr. HURNDALL: Did you? Then I did not catch it. There was one feature to which the professor did not refer, but which was very marked in this case. The cow was an old animal. The secretion of milk in it was quite arrested. She was externally cold. Her coat was standing up continuously. There was free salivation, or rather, a free secretion of saliva which dropped down in a long streaky condition. The temperature was 97F., the pulse was slower and, if possible, a little fuller. The bowels were so constipated that there had been no action for four or five days when he was called in. The animal refused to eat and drank very little. She had not touched any food for several days. Not being able to satisfy himself that there was any possibility of lead poisoning he at once turned his thoughts to the use of lead as a therapeutic agent. He adopted it with the result that the cow recovered and still served as a producer of milk. He did not mean to say that the milk was restored, because she was very near the time for her to be dried off. She was put to the bull again and ultimately served as a milk producer. As Hahnemanns there were one or two features which they looked for to guide them, namely the production of colic and constipation, either together or separately, where the stools were dry and lumpy. That was one point in which his observation differed from that of Mr. Samson. He described the fæces as "pasty." His (Mr. Hurndall's) experience was that they were dry and lumpy. What he was able to get from this cow came in small lumps. Then there was considerable retraction of the abdominal walls and a wasting of muscular tissue. The paralysis he regarded as the paralysis which was the feature in constipation—paralysis of the muscular walls of the intestines. There was present what he did not think Professor Axe referred to. He spoke of paralysis of the flexor muscles whereas he (Mr. Hurndall) was always under the impression that the paralysis in these cases was paralysis of the extensor muscles. Then the muscles were locally affected, were atrophied as against the general atrophy and particularly pale post-mortem. They also got, he thought, a neurotic condition, a spasmodic condition, such as one experienced when he had cramp in the calves of the leg; and in the cerebral system, there were indications such as they had in epilepsy. He believed they had always a suppression of urine, and the kidneys, he found, assumed that appearance which they sometimes saw in Bright's disease—a contracted kidney and also, he believed, degeneration. These were points on which he would ask Professor Axe to confirm him. One symptom distinctly observable in the cow to which he referred which was symptomatic of lead poisoning, although the case was not in his opinion one of plumbism, otherwise the treatment of lead would not have resulted—a symptom alluded to by Mr. Samson, a sort of amaurotic condition of the eye which once seen was never to be forgotten.

Mr. WALPOLE, as a young member of the profession, said he came there to learn from those who were older and knew more than himself, and he had a query or two to put to Professor Axe. He wished to ask whether the professor knew anything of the life history of the micro-organism which he described as having an acid effect on water? Mr. Hurndall had remarked that the acidity of lead was, if he (Mr. Walpole) might say so, an antidote to lead poisoning—(Mr. Hurndall: No!!!)—or could be used in the treatment of lead poisoning—(Mr. Hurndall: No.) Well, on the ground of that misunderstanding, he would ask Professor Axe if the water which became acid and in that way absorbed lead would not in some way act as an antidote to lead poisoning. The professor said in his paper he (Mr. Walpole) thought that lead would be found in the milk of milking cows. He wished to ask him if he knew of any cases where calves had suffered from lead poisoning from being suckled by cows affected with plumbism; and also if in pregnant cows lead had ever been found in the fœtus. What acid was produced by the micro-organisms to which reference had been made. They heard and read of people giving sulphuric acid in cases of lead poisoning. In the event of this micro-organism formed acid being a kind of sulphate, he did not see why it could not be an antidote to lead poisoning.

The CHAIRMAN said he, too, would like to ask Prof. Axe a few questions. Had he ever noticed lead poisoning in fowls. (Prof. Axe: Yes.) In a case of lead poisoning of fowls which came under his (the Chairman's) treatment he found that the old paint scraped off the premises about to be re-painted had been scattered about broadcast, and he found in the crops of the fowls which died pieces of this old paint. Many of the fowls died in a comatose condition, and their death was certainly attributable to plumbism. He wished to know whether Professor Axe had ever noticed the symptom which he (the Chairman) once saw very marked? He had never seen any record of such a symptom. It arose in the case of a favourite pony which was given much liberty and allowed to eat and drink anything it got the chance of consuming. It got at a paint pot one day. Above the paint there was a quantity of linseed oil and this oil it drank and reached the paint. Soon after it was observed to be very ill and he was fetched to see it. One peculiar symptom he noticed which he had never seen recorded, was an extraordinary spasmodic action of the intestines. He could only compare it to the extreme case of a fœtus being suddenly brought into abnormal action owing to the imbibition of cold water by the mare. The action had just that appearance—the appearance of a fœtus within kicking and plunging in the most violent manner. The symptom was really distressing. He administered sulphate of magnesia not only by mouth but by rectal injection. Then very shortly this symptom subsided, but the injections were continued every half-hour for a time. The mainstay of his treatment after the first administration of sulphate of magnesia and other agents, was this particular form of injection. If the injections were discontinued more than an hour the whole symptoms returned wildly. At the end of twenty four hours he determined, judging the case then to be fairly progressive, to discontinue the injections for two or three hours at least. But the symptoms again returned and at the end of forty-eight hours, after ceasing the administrations, the symptoms recurred. Hence he continued his treatment for another twenty-four hours, every two hours. Ultimately success rewarded his efforts and the pony recovered although it was exceedingly weak for some considerable time afterwards. Neither in that nor in any other case of lead poisoning had he noticed the blueness of the gums for which they were told to look, and for which he had always looked carefully. As to the water which supplied Glasgow from Loch Katrine to which Professor Axe alluded, he wished

to know whether the water was less soft when it reached Glasgow than when it was taken direct at Loch Katrine.

Professor Axe: I have no information as to the relative chemical composition of the water in the loch as compared with its composition at the point of distribution.

The CHAIRMAN said Professor Axe had exactly described a case to which he (the Chairman) had been called and which he was satisfied was one of lead poisoning, although a careful search did not enable him to put his finger on the cause of the plumbism. Had Mr. Samson found any visible traces of lead in his post-mortem examination of the cows to which he had referred?

Mr. SAMSON: No.

The CHAIRMAN added that Mr. Hurndall had not told them what disease it was from which the animal he attended suffered, if it was not lead poisoning, although many if not all of the symptoms of that disease seemed to be present.

Mr. HURNDALL: I am guided by symptoms and administer the drugs which are prescribed for the symptoms.

Mr. KENDALL said he had heard Professor Axe with much interest. In one of the stables under his (Mr. Kendall's) control they had lost twenty horses from lead poisoning within five years. Professor Axe mentioned that young horses were apt to suffer more from this disease than old. His (Mr. Kendall's) experience was that if they got horses to be steady at work for twelve months there was never much harm came to them. Professor Axe mentioned that acute cases extended from two to three days. Two months ago two valuable cart horses went to be shod in the morning. They then went to the city, a distance of two and a half miles, and in returning one of them turned bad and became giddy. They brought it to his place where it was given a drink. At a quarter to one it was dead. All the symptoms the animal showed was a tendency to lean upon the box door, to throw its head back, and its tongue protruded from its mouth. Four days afterwards another horse turned bad and showed the symptoms of leaning forward. He treated it with magnesia, sulphuric acid and aloes. The horsekeeper found it leaning against the door of the box and it dropped and died two days afterwards. Both these cases were investigated by Mr. Chesterman and himself. Most of the organs were sent to the College and nothing could be found save traces of lead. With regard to the chronic form of the disease the first symptom he had nearly always found was a grunt. If they went to a horse and touched him with the fist they elicited a grunt, not as in a case of roaring but a slight grunt such as a horse had when he got thick in the wind. There was also a tight appearance of the abdomen with knuckling over behind. He thought Professor Axe stated that the knuckling over occurred more in the fore legs than in the hind legs. His experience, however, was that it occurred more in the hind legs than in the front. At to treatment he had tried sulphate of magnesia, sulphuric acid and iodide of patash in acute cases with no result. In acute cases the horse was almost always dead before one had time to do anything with it. In the firm to which he alluded the horses were poisoned with white lead. On one side of the yard was the stable and on the other the tubbery. Neither a fowl, nor sparrow, nor even a cat could live in the place. The owners would not have the horses removed. Two dogs were there both of which were paralysed although they were only puppies thirteen months old. In making post-mortem examination in cases of death from lead poisoning he had mostly found the lead present in the liver, which was rather pale in colour. With regard to the urine it always smelled and appeared to him like linseed oil. In these cases they had, too, constipation as Professor Axe had described.

Mr. WALPOLE: I have yet another question to ask Professor Axe. Has he ever noticed in cases of lead poisoning in dogs and in the human subject the blue mark along the gums?

Mr. KENDALL: I have examined every case with a view to find a blue appearance in the gums but only in one have I seen a change. The appearance in the case was bluish-green—a bluish tint—and it was not round as one would expect to find it. It was about the size of a shilling, a little elongated.

Professor MACQUEEN said he was well aware that the blue line had often been spoken and written about, and he did not know that it was altogether so unusual as many seemed to think. They would find old practitioners, well acquainted with lead poisoning, who still maintained the occurrence of the blue line in the gums in chronic cases. Nor did he know that the line was always blue. It was often described indefinitely as discolouration of the gum. What did Professor Axe mean by lead poison? Did he mean any salt of lead, or did he mean that metallic lead would poison? If any salt of lead was poisonous, what was the toxological dose? Did Professor Axe consider that a pound of metallic lead would poison an ox or that three ounces of metallic lead would poison a horse! He (Prof. Macqueen) wanted a few facts. It was all very well to talk about lead poisoning as a frequent occurrence, but in a great many cases of so called "lead poisoning" the death was due to other causes, and the mere coincidence of metallic lead in the stomach was not to be regarded as satisfactory evidence of death being caused by lead.

The analytical chemist served as a splendid sheet anchor for a veterinary surgeon in a difficulty. If the latter suspected lead he went to a chemist who might find a trace of lead but it did not follow from such discovery that the animal died from the effects of lead. He thought that there was quite as much necessity for care in making deductions from the discoveries of chemists, and others, as there was in drawing inferences from symptoms.

He would like to allude to a remedy which everyone who had spoken had mentioned namely: sulphate of magnesia. It occurred to him that sulphuric acid or sulphate of magnesia if it acted by producing precipitation, was not the best treatment, because one ought to get rid of the lead as quickly as possible from the animal's body. Suppose they brought about precipitation, the lead might remain there a considerable time because lead was not liable to be disturbed by purgatives. How long would the precipitated lead remain in the stomach before it underwent oxidation? Another agent of perhaps greater value was iodide of potassium which was now being used in considerable quantities.

Mr. Hurndall alluded to a case treated with acetate of lead. The case appeared to be very like one of lead poisoning, in fact so alike that it was impossible to distinguish it from a different case, and he (Professor Macqueen) was inclined to believe that the acetate of lead was used as a remedy. That was a point he should like cleared up before Professor Axe replied. He would like to know whether acetate of lead was to be regarded as an excellent remedy in cases of suspected lead poisoning, or was acetate of lead merely a sort of recipé to be used on such occasions. Although his friend was a homœopathist, he did not think that fact should prevent him divulging a little information concerning his doctrine.

Mr. HURNDALL: I am sorry that my friend, Professor Macqueen, has taken the trouble to repeat a question

which I have already answered this evening, I have said most distinctly that acetate of lead was not used as an antidote for lead or as a therapeutic agent in the treatment of lead poisoning. What I said was this :. I had a picture before me of an animal which appeared to be the subject of lead poisoning but which, so far as I could make out, was not. If you ask me whether I could diagnose the case pathologically, I tell you, no. I am not ashamed to admit that in a large number of cases I could not tell you pathologically the nature of the disease. All I know is that I am successful in my method of treatment according to the symptoms, and that is where I have the advantage of you who rely upon your pathological knowledge.

Professor HOBDAY said remarks of Professor Macqueen had called to his mind a case which occurred five or six years ago in the practice he was then in as an assistant. There was a cow which the owner wished to "dry up" with the idea of getting the beast in a fit condition for the butcher. The veterinary surgeon administered for that purpose doses of alum, and usually administered the alum in vinegar. Being busy one day he instructed his pupil to put up four ounce doses of alum and have them ready by a certain time. Four days afterwards he (Prof. Hobday) gave this medicine to the owner of the cow with instructions how to administer it. Three days subsequently he sent word that the cow was very ill. The cow had had three of these drinks and presented all the appearance of lead poisoning. On the fifth day she was dead. It then occurred to the veterinary surgeon and to himself that most probably lead acetate had been given in mistake for sulphate of alum. This turned out to be the fact, as the drawers containing them were side by side, and the pupil had taken the wrong substance. In this particular case four four-ounce doses were sufficient to cause the death of a three-year-old beast. Mr. Walpole's remarks reminded him of a case which had occurred at the free clinique of the college during the past week. A collie bitch brought there presented all the symptoms of lead poisoning, and from the history of the case it was so. There could be no mistake about it. There were painters in the house whence the bitch came, and she was observed to lick the paint often by lying or rubbing against it This might be accounted for by the fact that the bitch had puppies and so, suffering from a depraved or morbid appetite characteristic of her condition, she liked the paint. The symptoms were the usual ones of lead poisoning, the chief difference between this bitch and other animals being that of vomiting. She suffered from the bowel and slept continually. The animal was treated first with several doses of sublimate of bismuth. Fomentation was applied to the abdomen, and opium. With respect to the cases mentioned by Mr. Samson, he was desirous of knowing whether that gentleman had examined the troughs in which the animals fed. With a view of getting information for that night's meeting he had written to an old and very experienced practitioner in Surrey, who wrote that in one instance he had a cow under his treatment suffering from lead poisoning which had licked the poison from a trough. The cow had all the symptoms of lead poisoning in the most violent form. This he attributed to the fact of the cow absorbing the lead into the system very slowly by only being able to get a small quantity at a time. The animals were almost if not quite blind. That seemed to have been one of the characteristic symptoms. In the treatment of the cases mentioned, magnesia sulphate and sulphuric acid seemed to have proved unsuccessful.

Mr. SAMSON :—There is no trough in the field where the cows went to graze, and the troughs in the cow shed are of wood and washed out every morning.

Mr. WALPOLE :—May I ask whether in the case Mr. Hurndall mentioned the animal died or recovered ?

Mr. HURNDALL :—I have already said it was cured.

Mr. WALPOLE :—Then may I take it that the animal was cured by the acetate of lead ?

Mr. HURNDALL :—I think I have fair presumption in saying that, inasmuch as this animal had nothing but the acetate of lead and that it recovered, it was cured by the acetate of lead.

Mr. WALPOLE :—Then I take it acetate of lead is an antidote to lead poisoning.

Mr. HURNDALL :—I did not say so. You can have a pathological condition which simulates lead poisoning.

Professor AXE :—This is Mr. Hurndall's position, as I understand it. He says "I saw a case wherein the symptoms were like those of lead poisoning. I did not conclude it was lead poisoning, but according to the principles of Hahnemann, I am instructed that, if in those cases where symptoms of lead poisoning prevail I give lead, I shall be successful." That is Mr. Hurndali's position.

Mr. WALPOLE :—I still hold that it is an antidote to lead poisoning on those grounds.

Mr. HUNTING :—May I ask a question before Professor Axe replies. I never saw a case of lead poisoning in my life. What I wish to ask is whether we are to look for this line on the gum. I have a recollection of reading the report of a case in an old number of *The Veterinarian* in which Herepath proved that there was a line visible about the thickness of a piece of sewing cotton which did contain lead. He demonstrated this by cutting the line out and melting it with a blow-pipe, he made a lead pellet of it.

Professor AXE :—Might not a similar result have followed an analysis of a piece of flesh from some other part of the body ?

Mr. HUNTING :—That would point to the presence of a large amount of lead in a horse's body.

Professor AXE in reply said there were several questions of interest which had been raised in the course of the discussion. Reference had been made to knuckling over at the fetlock joints which was so conspicuous a feature of the disease. In the human subject they were aware that a similar state of morbid flexion of the wrist and first joint of the fingers resulted from lead poisoning, but he was not satisfied that this deformity in the horse was altogether the result of paralysis of the extensor muscles, inasmuch as the inflamed and thickened tendons often resulted in contraction, and always occasioned an amount of pain which led to raising of the heel from the ground and more or less flexion of the fetlock joint. As to lead poisoning in dogs he could say nothing, having had no experience of the disease in these animals.

With reference to the life history of the organisms referred to as inducing acidity in certain culture media, all he could say was that it appeared to have its habitat in moorland water, and maybe also in peat and decaying vegetable matter. Mr. Walpole suggests that the acid elaborated by these organisms is sulphuric, and he is not alone in this opinion, but it has been pointed out by very high authorities that it is more likely to be organic in its nature, and humic and ulmic acids have been named as more in accord with the circumstances of the case.

He had been asked if calves obtaining their milk from cows while suffering from plumbism had been known to be affected by the poison; on this point he had no experience. As to lead poisoning in fowls, he knew that in lead smelting districts it was by no means uncommon, and he had been able to trace it to the consumption of grit containing particles of the metal, the two being in the form of finely divided slag. He had also known considerable sickness and mortality in cattle from the consumption of grains which had been covered down with road scrapings a large quantity of which was made up of lead slag. It had been suggested that large quantities

of shot was in the past sometimes given to horses to "set" them, and without occasioning symptoms of plumbism. It had to be remembered that while the peculiar arrangement of the stomach of the ox favoured the retention and solution of lead, that of the horse was such as to permit its speedy discharge and escape from the system.

He quite agreed with Professor Macqueen that old practitioners had repeatedly described the blue line along the gums, he was not, however, the more disposed on account of this to allow it more than a possible and exceptional occurrence. He could not answer Professor Macqueen's question as to the quantity of lead necessary to poison *an animal*. There were so many different kinds of animals, and animals of such variety of age, size and temperament that he was hardly prepared to give a question of such a general character a specific answer.

Professor AXE thanked the members of the society for permitting him to address them, and hoped the discussion would call forth a large measure of experience from the members present.

Mr. SAMSON moved a cordial vote of thanks to Professor AXE for his able, instructive and interesting paper. Mr. H. G. ROGERS seconded the motion, which was carried unanimously.

Professor AXE thanked the members, and the Society then adjourned until October next.

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

The summer quarterly meeting of the Association was held on Friday 27th July. at the Queen's Hotel, Leeds. The President, Mr. A. W. Mason, F.R.C.V.S., was in the chair, and there was above an average attendance of members.

Letters of apology for non-attendance had been received from Professors Walley, Pritchard, Axe, and Messrs. Thomas Greaves; J. E. Peele, Durham; C. Steel, Dublin; W. Woods, Wigan; W. G. Schofield, Pontefract; H. Olver, Tamworth; B. H. Russell, Grantham; Jno. Malcolm, Birmingham; C. Hartley, Lincoln; E. Faulkner, Manchester; J. Donald, Wigton, and others.

On the motion of Mr. Bowman, seconded by Mr. Clarkson the minutes of the last meeting were confirmed.

Proposed by the Hon. Sec. (Mr. Greenhalgh) seconded by Mr. Bowman, and resolved "That Mr. Collins of Otley be elected a member of the Association.

A letter was received from Mr. Frier, of Kirkby Fleetham resigning membership.

Resolved on the motion of Mr. Clarkson, seconded by Mr. Scriven that Mr. Frier be asked to reconsider his decision.

INSURANCE COMPANIES EXAMINATIONS.

The CHAIRMAN said the Eastern Counties Association had passed a resolution, and asked their opinion on it.'

Mr. Thompson (Harrogate) said he had not had much experience in the work, but a short time ago a London company wrote him offering him 3/- or 4/- to examine a horse. He wrote back saying he would only do it for double the money.

Mr. COOKE (Scarboro') thought the payment was all right if they could conveniently arrange for a number of animals, but the fee for a solitary case was absurd, and he had several times refused the work.

The CHAIRMAN thought they could do little good unless they as a body refused to accept the miserable remuneration offered by the insurance companies. He had had letters from some company lying on his desk for weeks, and had not done the examination because it did'nt happen to be in the district to which he was going. Of course these examinations did not take long. They could go into a stable and look round without taking their gloves off, and see at a glance that the stable was well appointed, the horses in good condition and nicely groomed, he thought it would be as well if they wrote to the insurance companies stating that the Y.V.M. Association considered the fees offered were totally inadequate.

Mr. BOWMAN did not think Mr. Mason's suggestion would assist them much, as the insurance companies could get their examinations made by men who were not in their Association.

Mr. SCRIVEN pointed out the subject had been discussed by various associations. At one he believed it was decided to lay the communication on the table, and at another there was nothing whatever done in the matter. He was not prepared to say how far they could proceed, but it seemed to him when they received a communication from an insurance company they should reply stating upon what terms they were prepared to do the work. If the companies did not care to accept the terms they must get somebody else to do the work. He proposed the communication be laid on the table and that each man fight his own battle.

It was ultimately decided that a communication be forwarded to the Eastern Counties Association stating that the veterinary surgeons of Yorkshire considered the fees offered by the insurance companies were totally inadequate.

DOCKING.

The next business was to consider the following resolution, proposed by Mr. Bowman and seconded by Mr. Briggs at the last meeting, "That in the opinion of this meeting docking is a necessity in many cases, and is not an act of cruelty if the operation be properly performed.

Mr. BOWMAN explained that the matter was left over from the last meeting because some members were afraid they might hurt Professor Pritchard's feelings. The matter had been previously discussed at great length, and he would only now say he thought docking was a necessity in a great many cases, and it was not an act of cruelty if the operation was properly performed.

Mr. J. CLARKSON supported Mr. Bowman, and maintained the course they had taken at the last meeting was a sign of weakness. They did not go against Professor Pritchard as a man but against his opinions on the subject, and he thought they ought to have passed the resolution at the last meeting. The result had been that it had gone over the whole country, that they had simply sat down with Professor Pritchard's ideas. He did'nt think at the last meeting there were two or three who agreed with Professor Pritchard's views.

Mr. COOKE did not agree with indiscriminate docking. In some cases as regarded draught horses he did not think it was necessary to dock them. As regarded the proper method of performing the operation, different veterinary surgeons had different ways, and each considered his the best. For his own part he should not consider the operation was properly performed unless hæmorrhage practically ceased with the operation.

The CHAIRMAN remarked that the matter had been thoroughly thrashed out, and he failed to see what advantage it would be to discuss it further.

The resolution was then put and carried, only Mr. Cooke voting against it.

The CHAIRMAN said the next item on the agenda was the reading of a paper by Mr. W. Hunting, F.R.C.V.S., President of the R.C.V.S. on "The feeding of sick animals." He said he could not help concluding from the meagre attendance there that day that his hopes were not going to be realized. Whilst he was in office if he could give a stimulus to the Association it would be a pleasure to him as well as a duty. He had thought if

they could secure the attendance of some of the leading lights of the profession it would do them no harm, and would be a stimulus to induce those gentlemen who did not attend the meetings to come to them. They all knew the state of business, even in that neighbourhood, and he thought some more of their members might have taken the trouble to come a few miles to give their president some tribute of respect, even although he had not been reading a paper. Eighty-two circulars had been forwarded and he could not tell them the number who had apologised for non-attendance. He had personally asked leading men who were not members of the profession to spend the afternoon with them, and he had received some very kind letters in reply. What he chiefly deplored was the inefficient way in which their own members attended. His earnest endeavour had been to make the Yorkshire Society what it had been in the past. He gave notice that at the next meeting he would propose that certain influential men should be made honorary associates of their Association, with the view of imparting some stimulus to them to go on in the future. He could assure them he made those remarks with a sorrowful heart, for he had tried his very best to get good attendances but apparently he had failed. The attendance of Mr. Hunting that day was particularly interesting, as it was his first public appearance before his brother professional men since his appointment as president of the Royal College. He would take that opportunity of complimenting Mr. Hunting upon his appointment, and wished him a year of success, and good health to discharge the duties he had undertaken.

Mr. W. HUNTING who was cordially received, said: Before entering upon the subject I would like to say I am sorry my friend Mr. Mason should be disappointed with the attendance here to-day. I have been to many societies, and I don't think he has relatively any cause to complain, I am not disappointed in the slightest. We don't count the heads when we want to get at the value of the assemblage, and I think in that respect we have a good attendance. I may say that I consider I am not the best man for the position of President. I am not a neutral man, I am a fighting man. Nevertheless I shall endeavour to discharge my duties. Burns said that a man ought to be judged not by the faults he was guilty of but the number of faults he was nearly guilty of. (Laughter).

THE FEEDING OF SICK ANIMALS.

By WILLIAM HUNTING, F.R.C.V.S.

There seems to be no systematic treatise on this subject and there is very great diversity in practice; yet the subject is an important one, and there should be some uniformity in practice. Perhaps our experience is not yet sufficiently great to warrant us in laying down any definite rules applicable to all our cases, and possibly the different usages may all have something to support them.

In the state of doubt and difference which certainly exists I have thought it not unlikely that a meeting of practical men, such as this one, might by an interchange of views and observations assist in clearing the ground a little. I propose just to arrange a few heads under which we may most conveniently consider the subject, and to offer my own experience as I go along.

Our patients are derived from different classes—from Herbivora, Carnivora and Omnivora. The food substances which may be offered them are many, and widely different in constitution and effects. Physiology and chemistry may help us in the selection of a proper food for each animal under varying conditions; but it is only practical experience of each article which will enable us to formulate rules for its use.

The three classes of animals which we are asked to treat present some marked peculiarities in the arrangement of their digestive apparatus. The horse has a small stomach and very capacious large intestines. He is a slow feeder, and apparently not fitted for long periods of fasting. He possesses no normal power of vomiting, seldom suffers from diarrhœa, but is prone to overloading and impactions of the large intestines.

The ox, like the horse, is herbivorous, but its digestive apparatus is very different. The gastric stomach is small, and there is in front of it a large receptacle—the rumen—for half masticated food which only enters the true stomach after prolonged preparation. Compared with the horse the large intestines are small, whilst the small intestines are about half the length of those found in the horse.

The carnivora—dog and cat—have large stomachs, an intestinal tube showing but little marked division into large and small. They bolt their food, vomit readily, and are fitted for long fasts.

The omnivora—represented by the pig—possess a digestive apparatus intermediate between the horse and the dog.

All three classes have an apparatus best suited to the digestion of the food they prefer, and best fitted to the habits of the animal. We may to some extent feed contrary to the indications offered us by the habit and structure of the animal. The body possesses very considerable powers of adaptability, and most foods contain all the elements necessary for nutrition although in vastly different proportions. If we desire the greatest benefit to the animal we must arrange our feeding strictly in accordance with the requirements and tastes of the animal.

Of feeding substances we have no end. The only one that is common to every one of our patients in their earlier days is milk, and all I would say about it now is that like other foods it must be digested before it is absorbed. On reaching the stomach the milk at once ceases to be the bland emulcent fluid it was when taken into the mouth. It divides into curds and whey, and the curds require gastric digestion.

The grains, roots and grasses that make up the food of our domestic animals may, from a dietetic point of view, be considered as made up of four constituents: nitrogenous matter, carbo hydrates or starches, fats, salts, and of course water. These chemical constituents vary greatly in their ratios to each other, and we therefore should know the chemical arrangement of our foods so as to choose those which supply most of the constituents we require, or which contain least of the constituents we wish to avoid. Beans of all varieties, nuts and flesh contain a very heavy proportion of nitrogenous matter. Rice, maize and barley are rich in carbo-hydrates. Some seeds possess an excess of fats. The roots supply an immense proportion of water.

The chemistry of foods is useful knowledge, but it requires much more supplementary information to make it a safe guide. Animals, like men, have tastes and preferences, and the form and density, the odour and appearance of food must not be disregarded.

Of still greater importance is a knowledge of the physiological action of each substance. Some are indigestible, some are positively poisonous or medicinal in their action, whilst others are neutral or almost inert. Even the articles of food which experience has picked out and approved so that they have become generally used differ very much in the digestibility of their constituents. Further we have to recognise that the digestibility of food varies in the different animals.

The value of foods is altered by many circumstances, such, for instance, as age or the time of harvesting, and by the processes of crushing, grinding boiling &c.

All the variable conditions to which I have referred

render the feeding of healthy animals a difficult art. How much more complicated then becomes the operation of feeding when we have to consider abnormal states of the animal.

To treat the subject fully would require a volume if the writer knew all about it. Fortunately my part to-day is only to arrange, to suggest, and to extract information.

Perhaps as convenient a way as any to fulfil my task will be to consider first the feeding most fitted for surgical cases and then that most suitable for the more serious medical cases, directing my attention chiefly to the horse. If time permits I may in conclusion invite attention to some points of interest in the feeding of other animals.

The surgical cases coming under our notice are wounds, injuries, and lameness. As a rule all these conditions are accompanied by another which we have to consider, namely, compulsory rest. An animal which comes as a patient to a veterinary surgeon with a wound injury or lameness as a rule leaves hard work and suddenly is compelled to stand still in a stable or a loose box. We all know that the food of an animal should be proportionate to the work it does; as soon as you upset the balance between the food and the work you have a constitutional disturbance as the result. The food must be modified with the conditions we find. We must take into account the reactions of change of work and change of diet. An excessive amount of food will probably pass into the circulation to be turned out again as useless, superfluous material. What we have to avoid are swellings, humours, and inflammatory symptoms. Not many years ago we credited all these to circulatory disturbances. We talked of "impure blood," we used the word "grossness" and spoke of "cooling and heating" foods. Now we know more about germs, we know that many of these conditions are due to local infection. A good many of the complications in wounds are dependent upon germs, but there is no doubt we must not entirely look to germs for complications. We must not despise these older expressions. They were perhaps wrong, but they expressed the experience of ages, and carried with them a good deal of weight. They expressed what men saw but could not explain, and we may take it the explanation is not entirely due to external organisms. The horse's legs swell when he comes to stand. From an injury you get swelling, and this is one of the most common complications which take place in case of wounds. The first thing in cases of injury, lameness or wounds, so far as food is concerned, is to reduce the amount so that it is proportionate to the waste of the tissues. We may not only reduce the amount but the quality of the food. If the horse is not suffering from any great constitutional disturbance when he comes to rest he will probably prefer four to three meals a day, and you can continue the quantity by reducing the nitrogenous quality. This is the only excuse for the very wide spread use of bran mashes. They supply something for the horse to fill his stomach with. They supply something which some people tell us is of high nitrogenous value, but which we find in practice is of very little value as food material. Whereas the chemist puts bran almost above oats as a food material by showing there is fourteen per cent. of albumoses in one and only twelve in the other, we know that if it is so, nitrogenous matters in bran are in a state in which they cannot be assimilated by the animal. I speak somewhat doubtfully when I say that bran is almost useless as a food material, simply because chemists insist upon it containing this chemical constituent. I have no hesitation in saying a horse would starve upon bran nearly as rapidly as he would on sawdust and water. There can be little doubt that the bran of to-day is not the bran it used to be. In the old days some of the farina was adherent to the outer skin of the bran, whereas now, with the new rollers used by millers, the quantity is infinitesimal. In former times if you put a quantity of bran on the sleeve of a black coat and shook it off you had a good layer of white floury material left; now you might put your coat into a sack of bran and it would come out clean. All you get is the husk forming the outer envelope. It amounts to this; a cooling food which relaxes the bowels and does not give rise to a skin eruption. Maize is often put in the class represented by beans—we know its nature is exactly opposite. It contains a very large proportion of starchy matter, and a very small proportion of salines. Maize, I take it, may be put into a category of foods that we used to describe as cooling.

When we have an accidental wound we have to put up with the condition of the animal as we find it; we cannot alter his condition at once. It is different when we get an operation. I take it none of us lay as much store upon the proper preparation of the horse for such an operation as firing and blistering as they did in olden days, but there is no donbt it is beneficial, if you want the best results, to adopt a little care in the preparation of a horse. It seems to me the explanation is this. If you take a horse or any other animal out of one set of habits of living and work you upset the balance in the system. You have to provide against this by altering the food in accordance with the new condition in which you place the horse. If he has been kept in a box, on transfer to a stall we find a tendency to effusion in the limbs. This same tendency exists when the horse is taken from hard work to a state of rest. The old notion that it is necessary to prepare a horse is not to be deprecated. I remember myself being very much annoyed once with the result of an operation. I bought a horse for an experimental operation and hastily operated the day after I bought him, with this result—that the wounds on the second day seemed to have healed by first intention, then on the third day all the legs swelled, the wounds gave way and healing by granulation spoiled the whole experiment. I believe if I had kept that horse without exercise for a week the probability is that his system would have adapted itself to the new surroundings and conditions. If a horse has been running out at grass or standing in a loose box and you come to operate, I don't think you get the same amount of swelling as you would if you take the horse from hard work and confined him to the stable. The horse's system is influenced by circumstances and habits as much as the human being. We must allow for this matter of habit, and be careful in recognising the upsets it might occasion. It does not always follow that when you are going to operate upon a horse you should resort to depletive measures. There are conditions in which the horse is suffering from debility and is below par. In that case you must try to build him up and let him gain strength before performing the operation. We notice frequently in horses a tendency to swelling in the legs. There are cases in which grossness causes a tendency to exudation, but in most cases you have debility, where the bloodvessels are less able than they ought to be to retain their contents. We have a good illustration of this in some cases of cracked heels. A horse out of condition affected in this way is very liable to have swelling of the legs. Until you get rid of that the wounds in the heel will not heal up, they may last weeks or months. In many cases my own experience is that instead of putting such an animal on bran, if I give oats and beans I have the more rapid recovery. You have to consider the condition of your animal; in some cases build him up and in other cases adopt the depletive system of feeding.

As to special wounds, there are wounds which require certain definite dietetic measures. The operation of spaying is one which depends for success upon the

dietetic care almost as much as upon the surgical manipulation. I find nothing is so conducive to a good result as keeping the animals without food for twenty-four hours previous to operating. I have tried the effects of operating upon bitches with and without this proceeding, and although I can offer no explanation of its action I am certain it is necessary. It was suggested to me by the practice of the pig-spayer. The rate of mortality before I adopted this was considerable, it is now very slight indeed.

Now with regard to wounds of the throat. Take choking. Nobody would feed an animal upon the same material that choked it, for some time after the obstruction had been removed. In cases of wounds of the jaw we must remember that an animal in feeding requires to masticate. It is movement that adds to the difficulties of treating jaw injuries. In cases of fracture of the jaw we ought to try, for a time at least, to absolutely prevent movement. In some cases of the teeth it is utterly impossible to do any good unless we make some arrangement by which an animal is not required to chew his food to any great extent.

Now with regard to medical cases. In various diseases of the internal organs we must consider the condition of the animal; we have poor animals, animals in good hard-working condition, and fat animals. No doubt we have all noticed that the worst patient to deal with is the fat one for nearly all internal affections. Take the case of ordinary influenza. I would rather have an animal in a distinctly poor condition, as against one too fat if I wanted a good result. We have to do with a general constitutional disturbance, and we must not forget the derangements of the special functions of the body. When the animal is ill you have a loss of appetite. That means that he does not eat sufficiently to compensate for the waste of tissue, and loss of strength follows inevitably. On the other hand if you force him with food you are pouring material into an organ which is incapable of digesting it. We must therefore try to preserve a nice balance, to keep up the strength of the animal by supplying a necessary amount of nutriment, but we must avoid over-loading the stomach and bowels, and interfering with the functions of organs that ought to excrete but are now unable to get rid of the waste produce of the system. Take the general fever accompanied probably by some inflammatory condition of the internal organs that occurs in influenza—a specific disease. We have loss of appetite and the question is whether we should entice the horse to eat, or to force him, or what food we should give him. I believe in a feverish condition it is better for the animal to voluntarily take two pounds of food per day than to force him with four or five. Although he will lose condition by trusting to his own appetite you had better risk that loss of condition than force him, especially if you give stimulants with the food. My experience points to the fact that many cases of convalescence are injured by the administration of gruels and stimulants combined. To my mind it is a great mistake to force food upon an animal. There is the question of quantity and times. The horse has a small stomach and is a constant feeder. It is important in all diseases, where there is a loss of appetite, to try to induce appetite by little bits and often. If you leave a quantity of food in front of a horse it disgusts him. It is advisable to repeatedly change his food, and to leave food before him for only a short time. In cases of lung disease—take ordinary pneumonia—well you have a case which is more or less slowly recovering, nothing upsets him more than allowing him to satisfy his own natural appetite. Perhaps when you go to see him you find he is blowing a little more than he was the day before. In nearly all these cases you will find he has only just been fed and he has eaten better than usual. It is most important to limit the quantity of food; let him have food frequently but do not leave it before him. I do not believe that bran should be used in the stereotyped way in which it is. There are cases according to the text books and according to the practice of most of us which are treated with bran as a matter of course. It is not digestible, it is not nutritive. What is the objection to giving a horse oats? It is the most digestible food for a horse and it is the most appetising. I believe in nearly every case of disease of the internal organs there can be no possible harm done by giving a small quantity of oats. It is the most digestible of all grains. There is one thing, however, which is more digestible and that is grass. You may say that can only be obtained at certain times in the year. There are very few times in a year when if you make up your mind you cannot obtain a certain proportion of grass, and there are many cases in which you can re-establish the appetite by tempting the horse with a few blades of grass. I have myself known extreme measures resorted to, such as a man digging up some sods and letting the horse nibble at them. I think it is true, if strange, that where you establish appetite by this means it seems to continue and increase.

Now as to gruels. We of course use for sick horses gruels with the idea that the food is made more digestible, and so long as a horse will take it voluntarily it may benefit him. The question is how should we make it. There is an experiment well known to you all. If you put oats into water you will find a considerable amount of digestive action takes place. It is one of the few grains in which you find it. It is due apparently to a natural ferment in or on the oats. Fermentation is destroyed by boiling. When you make gruel by boiling you destroy entirely the action of natural ferment. I have often found horses would refuse boiled oatmeal gruel that would take for the time oatmeal and water stirred together. You don't want to worry the horse. Instead of merely mixing with water, there is no reason why we should not make a larger use of milk. Some practitioners, perhaps those who don't reside in big towns make a liberal use of milk. Whether the men who live in London be somewhat suspicious of milk I don't know, or whether they carry that suspicion into practice apart from domestic arrangements. In some cases it is important to regulate the amount of food. The horse may stand upon a superior quality of straw and in that case it is difficult to regulate the amount he eats. You have in many cases not only to select the food carefully but to take care he does'nt indulge in the straw forming his bed. Unless we adopt peat moss or sawdust for the bed we must resort to the muzzle.

With regard to roaring, by carefully regulating the food you can render a horse that has been said to be incapable of work a serviceable animal. In London it is not uncommon to find horses in gentlemen's stables, overfed and not worked enough, which it is almost impossible to work for roaring. The animal is probably sold to a cab proprietor, and in the course of a week or ten days that horse will do three times the work he could before without suffering from any exhaustion. In broken wind you can improve the animal by taking care you feed on no dusty food, and on the most digestible substances. With regard to the liver, I don't know anything about it. In cases of rupture it does not matter what you give them. In other cases I have diagnosed pleurisy where it turned out to be hepatitis and *vice versa* Intestinal diseases in a horse are extremely common. In the books we find that the amount of phosphatic food gives rise to the formation of calculi. I don't believe a bit of it. I don't believe any food has anything to do with it. I never saw a calculus that had not got a nucleus to start with. This is no doubt caused by bits of iron and other refuse getting mixed among their food. Horses very seldom suffer from diarrhœa, but in such

cases of course you would give starchy food such as flour and gruel. Some gentlemen present may give their experience as to feeding cattle. I unfortunately can speak with no authority about them. Dogs I know a little more about, and I object altogether to the general feeding of dogs. He is absolutely a carnivorous animal, and nature has fitted him with a digestive apparatus in which meat only should play any part. Ever since Mayhew wrote a book on the dog, laying it down that meat produced skin disease, it has been held that biscuits are the proper thing to feed him on. I deny that utterly, and maintain that meat is the best and the only natural food for him. I unhesitatingly say meat is the best thing for him. This brings up the subject of cooking. I prefer raw meat for all gastric diseases because having had experience I find it is more rapidly digested. As soon as you coagulate the albumen by cooking you increase its indigestibility. A hard boiled egg is very much more indigestible than a raw one, and cooked flesh than uncooked. I am inclined to think that peas are rendered more digestible by cooking, but certainly as far as meat goes it is more digestible raw than cooked.

Now gentlemen, I have brought before you nothing new. Originality is a rare thing. In science it can be found only in connection with one little subject at a time. Where a man has an original discovery the best thing he can do is to put it into writing in the journals for other men to consider carefully. Specific additions to veterinary knowledge, or to any knowledge, come in small pieces and are best offered in the form of carefully written articles. These societies are essentially for discussion, and we can never obtain much exchange of opinion on novel discoveries. The subject I have laid before you is a very wide one; we all know something about it, and if you will now contribute your quota, we shall all of us be a little wiser than we were at the beginning. (Applause.)

ARMY VETERINARY DEPARTMENT.

War Office, August 7th.

Veterinary-Lieutenant Charles Edwin Nuthall to be Veterinary-Captain. (July 30th).

Veterinary School (Officers).

The following officers joined the Veterinary School at Aldershot for a course of instruction which commenced on the 1st inst.:—*Cavalry.*—Lieut. the Hon. N. W. Hill-Trevor, 2nd Life Guards; Lieut. C. Rose, Royal Horse Guards; Lieut. F. C. Quicke, 1st Dragoon Guards; Lieut. C. W. Battine, 7th Dragoon Guards; Capt. J. W. M. Wood, 1st Dragoons; Capt. A. W. M. Richards, 2nd Dragoons; Capt. D. V. Pirie, 3rd Hussars; Lieut. A. O. Francis, 4th Hussars; Second Lieut. G. K. Ansell, 6th Dragoons; Lieut. Lord G. W. Montagu-Douglas-Scott, 10th Hussars; Second Lieut. G. C. de C. Wright, 12th Lancers; Lieut. A. F. Anderson, 13th Hussars; Captain R. M. Richardson, 14th Hussars; Lieut. H. A. Tagart, 15th Hussars: Lieut. C. A. S. Warner, 17 Lancers; Lieut. M. G. E. Woodmass, 19 Hussars; Lieut. H. Wiltshire, 20th Hussars. *Royal Artillery.*—Captain H. Calley and Lieuts. G. A. Cardew, C. Birch and E. H. Pim. *Royal Engineers.*—Lieut. P. S. S. Radcliffe. *Infantry.*—Capt. F. A. Wilkinson, 1st Royal Fusiliers; Lieut. W. K. Trotter, 2nd Duke of Wellington's Regt.; Capt. F. H. Lucy, 2nd Northamptonshire Regt.; Capt. the Hon. H. J. Anson, 1st Highland L.I.; Capt. S R. L. White, 2nd Leinster Regt.; Capt. W. H. P. Plomer, 5th Royal Irish Fusiliers. *Indian Staff Corps.*—Lieuts. C. W. Tribe, G. S. Fraser, E. H. Watson, and A. H. P. Turner. *Army Service Corps.*—Lieut.-Col. R. A. Nugent, C.B., Capt. A. Phelps, and Lieuts. A. R. C. Atkins, L. W. Atcherley, H. G. A. Garsia, and W. S. Swabey.

OBITUARY.

Matthew Blaker Forbes, Reigate, Surrey,
Graduated at the London College, Dec. 1857.

Death occurred suddenly on Bank Holiday, at his residence in Homesdale Road. Mr. Forbes, who was 58 years of age, had been in failing health for some time past. He was out walking on Sunday evening, but on the following day was seized with one of those fits to which he has been subjected of late, and expired between eight and nine o'clock that morning. The funeral took place in the Reigate cemetery on Saturday 11th inst.

EXTRACTS AND NOTES.

OFFICIALISM AND SWINE FEVER.

A fine example of the developments of officialism is to be found in the last Swine Fever Order, which is causing so much inconvenience and loss throughout East Anglia. Major Landon and Lieutenant Chamberlain attended at Ipswich on Tuesday to instruct Mr. F. T. W. Burch, Mr. J. A. Hempson, Mr. Jos. Flintham, Mr. George Fiske, Mr. J. A. Smith, and other East Suffolk agriculturists as to the steps necessary to prevent swine fever. Major Landon is, we presume, a retired officer in the army, and Lieut. Chamberlain was, we believe, in her Majesty's Navy. Had either of these gentlemen come down to inspect fortification, we have no doubt they would have done their work very well. But it is carrying central interference to an absurdity when two such gentlemen are sent down to assist one of the most practical Executive Committees in the country in carrying out regulations as to the sale of swine. It is difficult to believe that any practical agriculturist was in any way concerned in framing the Swine Fever Order. Under its provisions a pig sold on Ipswich Market must be forthwith branded and killed within four days, and the Ipswich Town Council, as the market authority, is supposed to see that the pig is killed within the four days. The number of pigs sold at Ipswich Market on Tuesdays sometimes runs into four figures. By what means does the Board of Agriculture suppose every one of the thousand pigs is to be tracked to its destination and watched till the day of slaughter? But this is only part of the absurdity. Ipswich Market is carefully cleansed, and any pig showing signs of disease would be promptly killed. Yet where the sale takes place under this supervision slaughter within four days is insisted upon. But the pig dealer has only to buy the pigs on the Russell Road, before they have entered the market, and he can do what he pleases with them. He can take them to a public-house yard, keep them there without supervision, put them into carts which are not systematically cleansed, and redistribute them to all parts of the county. Mr. Chaston mentioned at the Committee meeting on Tuesday that, "At Ipswich market, auctioneers were not allowed to sell any store swine, whereas in the Russell Road, a few hundred yards from the market, store swine had been and were still being sold." It is notorious that these sales in public-house yards by the roadside are going on all over the Eastern Counties. The Board of Agriculture know it, and when reminded of it, simply refer to the powers of the Local Authority to make regulations not to allow swine to be moved on

the highway except by licence. This is very charming; the Board of Agriculture make an order which they know has this great loophole in it; and then ask the Local Authorities, whose advice they will not take, to stop this loophole for them.—*East Anglian Daily Times.*

PARLIAMENTARY.

The Board of Agriculture Inspectors.

In the House of Commons, Sir Richard Temple asked the President of the Board of Agriculture whether the Board of Agriculture, in order to trace to its primary saurce certain contagious diseases among animals, had for this purpose appointed thirty-one travelling inspectors—one, the chief, with a salary of £900 per annum, and thirty others at £250 a year; whether these gentlemen possessed the scientific knowledge rendering them capable of satisfactorily performing such duties, and whether the travelling inspector had supplanted the veterinary inspector, the person who should be called upon to perform such services? In reply to this question, Mr. Gardner said that the duties assigned to the Principal of the Animals Division of his Department, and to the temporary assistant inspectors appointed for swine fever business—who were the officers to whom he understood the hon. baronet to refer—did not require for their performance the possession of veterinary or scientific knowledge. On the retirement, at the end of last year, of the former director of the Veterinary Department, a rearrangement of duties was sanctioned, and his (Mr. Gardner's) veterinary officers were now exclusively engaged on work of a professional character, but no work requiring the possession of veterinary knowledge had been transferred to an officer not possessing such knowledge.

What is a Veterinary Surgeon?—Decision.

Mr. M. Musgrave, "the dog's friend," of 17 Grand Parade, Putney, was summoned under section 17 of the Veterinary Surgeons Act, 1881, for stating that he was qualified to practice the Veterinary Surgeons Art.—Mr. George Thatcher prosecuted on behalf of the Royal College of Veterinary Surgeons, and Mr. Norman defended.—Mr. Thatcher stated that the defendant had placed up in his shop window two slips of paper bearing the words "Dogs boarded—All diseases skilfully treated," and thereby represented himself to be capable of practising a special department of veterinary surgery.—Mr. Denman: Was not the Act meant to refer to those who represented themselves as duly qualified veterinary surgeons?—Mr. Thatcher: There is no magic in the word "veterinary." The Act refers to anyone who represents himself to be specially qualified.—Mr. Norman, for the defence, contended that the Act only meant to enable persons to distinguish between duly qualified veterinary surgeons and those who without a diploma represented themselves to be veterinary surgeons. His client had carried on his trade for 20 years.—Mr. Denman, in giving his decision, said the whole case turned on the meaning of the words "specially qualified" in the Act. He (Mr. Denman) thought those words implied the recognition of some diploma in the Art of Veterinary Surgery. He did not believe the Act was intended to apply to such cases as the one before him. It was an interesting point, and he was willing to grant a case. At present he would dismiss the summons with a guinea costs.

Swine Fever in Lincolnshire.

An important communication has been received from the Board of Agriculture by the Holland (Lincolnshire) County Council, the result of which will be the opening of all the markets in the division which have been closed owing to the stringent regulations imposed, against which there had been considerable agitation. The Board now propose to withdraw the existing restrictions, subject to regulations providing against the spread of the disease to other counties, and to revert to the regulations in force prior to the Act of last session, thus placing the matter in the hands of the Local Authority. A similar communication has been forwarded to the Cattle Diseases Committee of the Boston Town Council.

Parasitic Mange in Cornwall.

Thomas Philp, of Lostwithiel, was summoned at Liskeard for failing to give notice that a horse in his possession was suffering from parasitic mange. P.S. Vanstone saw the horse running with others on Lostwithiel Moors. Defendant, although he said there was nothing the matter with it, removed it at night to an orchard. Two colts on the Moors caught the disease, which Mr. Ridgman, V.S., certified to be parasitic mange. Defendant told P.C. Green that he should do nothing to cure the disease, and did not care for all the veterinaries. The magistrates told him he was liable to a fine of £20, but as the order was a recent one he would be fined 10s. and costs. If the horse was not cured he would be liable to be summoned again.

CORRESPONDENCE

CONVICTED REGISTERED SHOEING SMITHS.

Sir,

Under the heading of "Complaining Again" in your issue of this week, a letter appears from Mr. Rogers suggesting that the authorities should remove from the official list those Registered Shoeing Smiths who have been convicted for offending against the V. S. Act,—now sir, under the present circumstances I consder this ruggestion most unjust, for how can any association be efficiently carried out when there are no stipulated rules by which its members can be governed. Speaking for my own self, when the scheme was first inaugurated, I wrote asking for the rules but was informed there were no rules other than those contained in the papers sent me. Under the present state of affairs I consider that the Registered Shoeing Smiths who have been convicted for offending against the V.S. Act have done nothing so serious as to justify their names being struck off the official list.

Now when this magnificent scheme was started, if rules were placed before the smiths and it was stipulated therein that they should be struck off for offending in this or any other way I should have nothing to say. I have no sympathy with the smiths who have been prosecuted and convicted for offending against the V.S. Act, at the same time I think they have been sufficiently punished—and I further say that the Council of the R.C.V.S. should totally disregard the suggestion now brought under their notice by Mr. Rogers.—Yours truly,

John Owen, Reg. Shoeing Smith.

Neath, August 14.

Communications, Books, and Papers received:—Dr. R. H. Clarke, Messrs. J. Worsley, J. A. W. Dollar, W. F. Greenhalgh, J. McLauchlan Young, E. W. Hoare; S. Bailey, J. Owen. *Putney and Wandsworth Borough News.*

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

Communications for the Editor to be addressed 20 Fulham Road, S.W.